



REDEFINING WELL COMPLETION TECHNOLOGIES

Multi Circulation Valve

# MULTI CIRCULATION VALVE (MCV)



With the MCV installed above our range of TDP glass plugs, the tubing string will be autofilling as the completion is run in the well. You can also displace well fluids in both directions by conventional or reverse circulation. The MCV is permanently locked in closed position upon completion of circulation/displacement operations to create a permanent seal.

The valve allows circulation from annulus to tubing - and from tubing to annulus. You can displace from heavy fluid to a lighter packer fluid multiple times. The MCV closes by increasing the circulation rate from tubing to annulus above the pre-set closing rate. By continually increasing the pressure, the MCV sleeve seals off permanently.

The MCV uses an internally activated lockout sleeve that shifts position to close the valve permanently once shear pin value is exceeded. It allows pump rates of up to 2 barrels per minute before a temporary seal is activated. At 3-to-4 barrels per minute, a temporary closing function is activated. By increasing the pressure further, an additional closing sleeve locks in place, to make sure that the MCV is permanently closed.

The MCV can be certified according to the ISO 14310 V3 standard upon request. The valve only closes during pumping from tubing to annulus.

As contingency the MCV sleeve can be permanently closed with a shifting tool on wireline or slickline.

## FEATURES & BENEFITS

- FLEXIBILITY
  - Circulate well fluids without intervention
  - Flow rate activated closing of sleeve
- SAFER OPERATIONS
  - ISO 14310 V6 certified
  - Casing not exposed to pressure
- LOWER COSTS
  - No need for intervention to close

## APPLICATIONS

- FLUID DISPLACEMENT
- AUTO FILLING DEVICE
  - fills the tubing string when RIH with TDP plugs

| Product Type  | Outer Diameter | Inner Diameter | Max Temp.     | Max Diff. Pressure | ISO 14310 Certification |
|---------------|----------------|----------------|---------------|--------------------|-------------------------|
| MCV 5.72x3.75 | 5.72"          | 3.75"          | 120°C / 250°F | 5 000psi / 345bar  | V6                      |